UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

NOV 14 1988

MEMORANDUM

SUBJECT: Meeting with AMAX, November 8, 1988

FROM: Alice C. Fuerst ACF
REMD/SPFD

TO: Files

On November 8, 1988, I met with AMAX to discuss their laboratory testing on the mine waste and chat piles to evaluate their proposed remedy for the Galena subsite. The meeting was held in AMAX's office in Golden, Colorado. Present at the meeting were the following:

Peter Keppler, AMAX
Ken Paulsen, AMAX
Deepak Malhotra, AMAX
Mark Logsdon, ABC for AMAX
John Richardson, ASARCO
Neil Geitner, CH2M Hill for EPA
Bill Bluck, CH2M Hill for EPA
Alice Fuerst, EPA

Following the meeting, Mark Logsdon took EPA and CH2M Hill over to the laboratory conducting the column leach tests. That laboratory is Core Lab in Aurora, Colorado.

AMAX explained that Gary Andes collected the samples for the column leach test. Random samples from each of the eight zones were collected. The mine waste samples were surface samples only, whereas chat samples were collected after removing the top six inches. Each of the samples was sealed separately. The laboratory composited the samples for the test. AMAX crushed the waste rock samples and sent the samples back to the laboratory for the testing. Chat was sent to Hazen Laboratories in order for tailings to be created for the leach tests. Hazen Laboratories is the same laboratory that EPA used in its treatability studies. AMAX's laboratory has been doing their own analytical work on samples also. The mine waste samples were crushed to less than one-inch size. AMAX stated that the

waste rock column leaching tests were just about done and the tailings leaching tests are following behind by about five days. The reason why the tailings are behind is because they have the contract with Hazen Labs in order to produce the tailings for use in the testings. They said that the pH in the waste rock leach test is rising, which they explained was good. The higher the pH, the less leaching that there will be. They said that the pH of the tailings started out high because of all the additives that had to be put in with the chat in order to produce the tailings.

AMAX was running batch tests on the waste rock in addition to the column leach tests. They have tested the less than one-inch size mine waste rock. They have crushed the greater than one-inch to about one inch and mixed it with the natural less than one-inch samples. They have found that the mine waste rock has the lowest values of the lead, and that the natural less than one-inch size rock had the highest lead values. They tested the fines and found the fines to have high lead. Deepak stated that leaching from the course rock will be very low, but leaching from the fines will be higher.

We discussed the volume and void space estimated by AMAX. Gary Andes had done this for AMAX. The void spaces that were estimated were surface depressions, primarily above the water table. AMAX will have Andes go back out to the field to estimate the void spaces not under the water table, if that has not already been recorded. When Andes goes back to look at the void spaces above the water level, he will be looking at the historical water levels, not just the current water levels since this has been a drought year. Neil Geitner will look at the strip charts from the water level recorders that we had onsite to provide information on the amount of fluctuation we observed in the water table.

Paulsen said that they had been looking at ways to have better volume estimates using aerial photos. He said that this would not be totally accurate because of the size of the site, but would be better than what they have now. The estimated cost for that is $20,000. He said they also considered looking at refining the estimate for the amount of work needed to move all the chat materials and mine waste piles. He estimates that will be about $25,000. Paulsen said that AMAX will refine the numbers if EPA wants AMAX to do it. Fuerst responded that her initial feeling was not to refine the numbers at this time. The numbers that they have so far are order of magnitude and a decision on whether to conduct the work could be based on the order of magnitude figures.

AMAX will have their report to EPA by the end of November. This report will be a summary of the work they conducted with the column leach test. I suggested that it would be a good idea if they looked at the nine criteria and evaluate the alternative

proposal based on those nine criteria. I will send a copy of Porter's memo on the nine criteria to Ken Paulsen. Keppler stated they did not want to present a full proposal to EPA on this, but did not disagree with evaluating their alternatives based on the nine criteria. Following receipt of the report, EPA would like to meet with AMAX again to discuss the report. The EPA requested a presentation on the findings. The meeting was tentatively set to be a technical meeting in Kansas City at 1:00 p.m. on December 9, 1988.

John Richardson asked whether a decision on the alternative in Galena would have impact on the decision in the other subsites. This was discussed among the people in the room with concensus that each of the subsites is different, so it is impossible to say whether this will have impact on the other subsites. AMAX asked the status of the Baxter Springs work plan. I told them that we expect to have the work plan to them by January. We are holding up the work plan waiting the results of the column leach tests and how that impacts Baxter Springs.

AMAX asked the status of the alternative water supply design activities. I explained that design is expected to be 35 percent complete on November 21, 1988. That will include preliminary drawings on where the water lines will go and the location for the wells, tower and building. We expect to have the contract with the Corps of Engineers in place for the remedial action in March, with the construction contract awarded by October 19, 1989. I explained that the RWD Steering Committee is working very hard to get the rural water district organized. They have about half of the signatures they need to get incorporated as a rural water district. I expect the rest of those signatures to be obtained November 12, 1988, Saturday, of this week.

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